

fortunately do not include human) are not affected until caffeine concentrations rise well above those likely to be attained by even the most pathologically addicted coffee buff. It is also clear that phosphodiesterase inhibition is not an important factor in the damaging effects on chromosomes.

The author's considerable personal contribution in this field, particularly his studies on plant cells, enlivens the whole section, and it enables him to set current debates in a very realistic context. Particularly interesting are the studies of caffeine effects on chro-

mosomes damaged by other agents such as ultraviolet light or ionizing radiations.

All in all, certainly not a standard textbook, nor a book aimed at the lay public, but a well presented personal account of the author's own field of interest and knowledge. Those concerned in the coffee trade will be delighted at the final conclusion that coffee drinking cannot be shown to have any significant damaging effect on human chromosomes.

J. Halliday

*Translation of Natural and Synthetic Polynucleotides*

Edited by A. B. Legocki

Elsevier/North-Holland Biomedical Press; Amsterdam, New York, 1978

ii + 422 pages. Dfl. 153.00; \$66.75

This book certainly brought to the fore some thoughts that have been disturbing me, and no doubt others, for some time. Here we have the guts of a series of about 70 papers presented at a Symposium in Poznan in May 1977 which have been published after a delay of about a year. The Symposium dealt with an important, if comparatively narrow, area of the field of protein synthesis but there is little in the way of a bird's eye view of the current state of the art which could have been useful to the non-specialist. The net result is that the volume engenders a feeling of gratitude on the part of the reviewer for a hard labour by all concerned with the publication but a query as to the nature of the likely readers. I suspect that these will be fellow researchers who will particularly appreciate the opportunity of getting to know a little more of the interests of their colleagues in Eastern Europe.

Then one turns to the question of price. Certainly in terms of the cost of books that one's Medical School is likely to buy on a limited budget, \$67 is excessive. How could one set about convincing one's colleagues in other departments that this is money well spent. In short one could not with any chance of success, so that an old hand reserves his ammuni-

tion for another day and does not try. On the other hand if one compares the price with the cost of biochemicals everything seems more reasonable; quite an interesting survey of the field for the price of 100  $\mu$ Ci of  $^{14}$ C-labelled amino acid. Perhaps our trouble is that we tend to think of books like this in terms of library budgets whereas they should be competing with the budget for reagents for they should enable us to do our experiments better. The conclusion is that by going through an agonizing reappraisal I can justify the purchase always assuming that the bureaucrats allow one to do so.

Dr Legocki who organized the meeting edited the Symposium, and contributed papers, obviously did well and I have heard excellent reports of the meeting. The papers were divided into six sections:

- (1) Regulation of Translation;
  - (2) Role of the initiation factors in polypeptide synthesis;
  - (3) Elongation of polypeptide chains;
  - (4) Translation of cellular and viral RNA;
  - (5) Characterization of translational apparatus;
  - (6) Application of gene transfer for biological studies.
- The papers that particularly caught my eye are those by S. Ochoa on 'Regulation of Translation' in which

he presents an interesting if slightly controversial view of the fascinating control systems in reticulocytes, Safer on 'initiation complexes' and Moldave on 'initiation factors', Bosch on 'the structure and function of the 3'-terminus of 16 S rRNA'. But there are many more and as I previously mentioned there are compar-

atively unknown names from Poland, Czechoslovakia, DDR and USSR.

The book appears to be carefully edited and adequately illustrated although the electron micrographs are sometimes very poorly reproduced.

P. N. Campbell

### *Amino Acid Metabolism*

by D. A. Bender

John Wiley; London, New York, Sydney, Toronto, 1978  
xi + 234 pages. £5.50

This publication is the paperback edition of a clearly-written textbook first published in 1975. There is more information concerning the degradation and biosynthesis of amino acids than in general biochemistry textbooks and therefore this publication offers a useful service to third year undergraduates and research students interested in the field of amino acid metabolism. Indeed, this paperback version is likely to be quite popular amongst such students.

The contents of the book show a bias towards human biology, as made clear in the preface.

The chapter 'amino acids in the central nervous system' seems a little isolated from the rest of the book and could have possibly been improved by including similar chapters on the involvement of amino acids in chemoreception and osmoregulation. In such chapters a clearer presentation of amino acid transport could have been given. This would have been a marked improvement on the 4-page section describing the  $\gamma$ -glutamyl cycle hypothesis which is presented somewhat out-of-place in a chapter on amino acids synthesised from glutamate.

A more serious omission is the lack of a chapter concerning the biochemistry of non-protein amino

acids. There are over 400 of these amino acids now structured. They appear to be very widely distributed in plant tissues, many of them possessing powerful pharmacological and biochemical properties. By introducing such aspects Dr Bender would have produced a book with a much wider appeal.

A further minor criticism is that, for a book totally devoted to amino acid metabolism, there is remarkably little information concerning amino acid oxidases.

The 4 chapters dealing with general amino acid metabolism provide an excellent review of the subject. The information is not presented in an encyclopaedic fashion but in logical sections which make interesting reading. These sections also describe the biosynthesis of porphyrins, phospholipids, creatine, the proteins of connective tissue, melanin, thyroid hormones and auxins. The metabolic sequences are clear and presented in a relatively uncluttered fashion.

The book is reasonably priced.

A review by P. B. Nunn, concerning the hardback edition of this book has been published in FEBS Lett. (1976) 64, 241.

R. C. Hider